



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,942	04/12/2001	Lawrence J. Mann	56319USA3A	3232

32692 7590 12/19/2002

3M INNOVATIVE PROPERTIES COMPANY  
PO BOX 33427  
ST. PAUL, MN 55133-3427

EXAMINER

SALVATORE, LYNDIA

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 12/19/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/833,942	MANN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Lynda M Salvatore	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 1-22 and 38-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 3. 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-37 drawn to non-woven fibrous web cleaning article, classified in class 442, subclass 417 and Class, 428, subclasses 304.4 and 323.
  - II. Claims 38-47 drawn to method of cleaning a soiled surface classified in class, 134 subclass, 6.
2. The inventions are distinct, each from the other because:

Inventions of Group I and Group II are related as method for producing a resin-impregnated grit-containing overlay for laminates and the laminate made there from. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the method can be employed to produce a materially different product such as non-abrasive article or a brush.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. If applicant elects Group I, this application contains claims directed to the following patentably distinct species of the claimed invention: foam pad substrate: claims 23-37 and non-woven substrate: claims 1-22.
6. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.
7. During a telephone conversation with Gregory Allen on December 9<sup>th</sup> 2002 a provisional election was made with traverse to prosecute the invention of Group I, species claims 23-37. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-22 and 38-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
8. Applicant is advised that the reply to this requirement to complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 23-37 are rejected under 35 U.S.C. 103(a) as obvious over Beardsley et al., US 5,849,051, in view of DeFilippi, US 5,580,770 and further in view of Recker et al., US 5,627,222.

The patent issued to Beardsley et al., discloses a abrasive foam article comprising a flexible resilient foam substrate having first and second surfaces, wherein at least one surface side further comprises a plurality of abrasive particles adhered to said surface with an adhesive binder (Abstract and Column 3, 37-42) The particles are distributed in a uniform manner along the surface and thin uniform coat of binder adhesive covers the abrasive particles (Column 5, 20-37 and Column 9,65-Column 10,13). Suitable abrasive organic particles include diamond, silicon carbide and less aggressive thermoplastic particles(Column 10, 27-35). The foam abrasive article is suitable for use in a variety of applications such as finishing and polishing metal, wood, and plastic (Column 2, 15-20).

Beardsley et al., fails to disclose a binder having a glass transition temperature less than + 10, however, the patent issued to DeFilippi teaches a polymeric foam substrate coated with polymeric binder (Abstract). Suitable binders include synthetic rubber such as styrene-butadiene (Column 7, 55-61). DeFilippi teaches that the glass transition temperature is used to correlate the structure of the binder to its ability to function as an effective binder. In this instance, the preferred binder has a glass transition of less than or equal to 0° C (Column 8, 21-40).

Therefore, motivated by the desire to employ an effective binder, it would have been obvious to one having ordinary skill in the art to coat the foam substrate of Beardsley et al., with the low glass transition temperature styrene-butadiene binder of DeFilippi.

Beardsley et al., also fails to disclose the shore A and D hardness, or the aspect ratio of the organic particles, however, Beardsley et al., does disclose that the particles may be formed

Art Unit: 1771

from less aggressive thermoplastic materials. Beardsley, does not teach a specific thermoplastic or thermosetting material, however, the patent issued to Recker et al., teaches toughened, fiber reinforced thermosetting resin matrix systems comprising elastomeric particles (Abstract).

Suitable particle materials include functionalized rubbers having low glass transitions temperatures. Recker et al., teaches that nitrile rubber is available in a particle/latex dispersion or suspension (Column 5, 19-23). The rubber particles may be hollow, solid or porous and have a sphere shape (Column 5, 7-10). Recker et al., further discloses that rubber particles exhibit good adhesion to the matrix resin (Column 4, 1-5).

Therefore, motivated by the good adhesion properties of the rubber particles to resin, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the nitrile rubber particles of Recker et al., as the less aggressive thermoplastic particles in the foam pad of Beardsley et al.


With regard to the Shore A and D hardness, and the aspect ratio recited in claims 23,25,30,31, and 37, it is reasonable to presume that these properties are inherent to the functionalized rubber particles of Recker et al. Support for said presumption is found in the use of like materials such as thermoplastic or nitrile rubber particles and use of like processes such as forming sphere shaped particles, which would result in the claimed property. The burden is upon the Applicant to substantiate the physical particle hardness and aspect ratio properties.

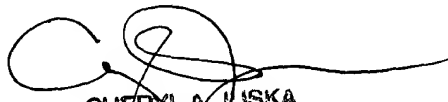
*Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M Salvatore whose telephone number is 703-305-4070. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

ls   
December 16, 2002

  
CHERYL A. JUSKA  
PRIMARY EXAMINER